CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1-50.   (Canceled)

51.   (Currently Amended) A node for use in a communications system ~~system,~~ that packs and fragments ~~transfers~~ service data units (SDU) for mapping into ~~over a communications link as a~~ protocol data unit<u>s (PDU), each PDU</u> having a <u>variable-length, a</u> payload area<u>,</u> ~~and~~ a header area, <u>and being associated with a specific user connection, the node</u> comprising:

a communications processor configured to <u>pack and fragment</u> ~~convert~~ service data units <u>associated with the user connection</u> into a protocol data <u>unit, including performing the following operations:</u> ~~units by,~~

mapping a first service data unit to the payload area of <u>the</u> ~~a~~ protocol data unit,

determining whether a second service data unit is larger than the remaining payload area of the protocol data unit,

if the second service data unit is not larger than the remaining payload area of the protocol data unit, then mapping the second service data unit to the remaining payload area of the protocol data <u>unit, and</u> ~~unit;~~

if the second service data unit is larger than the remaining payload area of

the protocol data unit, then fragmenting the second service data unit into at least

two fragments and mapping the first fragment to the payload area of the protocol

data unit, wherein:; and

wherein the header area of the protocol data unit includes comprises a length field

specifying the length of the PDU, the length of the PDU being dynamically established based on

the bandwidth currently allocated to the user connection, and

wherein some of the payload area of the protocol data unit includes comprises a packing

subheader for each service data unit packed in the payload area, the packing subheader

specifying the length of a respective service data unitfor each service data unit mapped therein

having a length field.

52.   (Currently Amended) The node of claim 51, further comprising:

· a transmitter coupled to the communications processor configured to map transmit the

protocol data units unit into frames and transmit the frames from the node.

53.   (Previously Presented) The node of claim 51, wherein the service data units have more

than one format.

54. (Currently Amended) The node of claim 51, wherein the packing subheader further comprises a fragmentation control field specifying whether the protocol data unit includes a service data unit fragment.

55. (Previously Presented) The node of claim 54, wherein the fragmentation control field comprises at least two bits.

56. (Previously Presented) The node of claim 51, wherein the packing subheader further comprises a fragment sequence number.

57. (Previously Presented) The node of claim 51, wherein the header area of the protocol data unit comprises a packing subheader present field.

58. (Previously Presented) The node of claim 57, wherein the packing subheader present field comprises at least one bit.

59. (Previously Presented) The node of claim 51, wherein the header area of the protocol data unit comprises an encryption control field.

60. (Previously Presented) The node of claim 59, wherein the encryption control field comprises at least one bit.

61.   (Previously Presented) The node of claim 51, wherein the header area of the protocol

data unit further comprises an encryption key field.

62.   (Previously Presented) The node of claim 61, wherein the encryption key field comprises

at least two bits.

63.   (Currently Amended) A base station for use in a communications system, that ~~packs and~~

~~fragments~~ transfers-service data units (SDU) for mapping into ~~over a communications link as a~~

protocol data units (PDU), each PDU having a variable-length, a payload area, and-a header area,

and being associated with a single user connection, the base station comprising:

        a communications processor configured to pack and fragment convert-service data

    units associated with the user connection into a protocol data unit including performing

    the following operations :units by,

            mapping a first service data unit to the payload area of the a-protocol data

    unit,

            determining whether a second service data unit is larger than the

    remaining payload area of the protocol data unit,

            if the second service data unit is not larger than the remaining payload

    area of the protocol data unit, then mapping the second service data unit to the

    remaining payload area of the protocol data unit, and unit;

if the second service data unit is larger than the remaining payload area of

the protocol data unit, then fragmenting the second service data unit into at least

two fragments and mapping the first fragment to the payload area of the protocol

data unit, wherein:; and

wherein the header area of the protocol data unit includes comprises a length field

specifying the length of the PDU, the length of the PDU being dynamically established based on

the bandwidth currently allocated to the user connection, and

wherein some of the payload area of the protocol data unit includes comprises a packing

subheader for each service data unit packed in the payload area, the packing subheader

specifying the length of a respective service data unit mapped therein having a length field.

64.   (Currently Amended) The base station of claim 63, further comprising:

a transmitter coupled to the communications processor configured to map transmit the

protocol data units into frames and transmit the frames from the base station.

65.   (Currently Amended) The base station node of claim 63, wherein the service data units

have more than one format.

66.   (Currently Amended) The base station of claim 63, wherein the packing subheader

further comprises a fragmentation control field specifying whether the protocol data unit includes

a service data unit fragment.

- 12 -

67. (Previously Presented) The base station of claim 66, wherein the fragmentation control field comprises at least two bits.

68. (Previously Presented) The base station of claim 63, wherein the packing subheader further comprises a fragment sequence number.

69. (Previously Presented) The base station of claim 63, wherein the header area of the protocol data unit comprises a packing subheader present field.

70. (Previously Presented) The base station of claim 69, wherein the packing subheader present field comprises at least one bit.

71. (Previously Presented) The base station of claim 63, wherein the header area of the protocol data unit further comprises an encryption control field.

72. (Previously Presented) The base station of claim 71, wherein the encryption control field comprises at least two bits.

73. (Previously Presented) The base station of claim 63, wherein the header area of the protocol data unit further comprises an encryption key field.

74.   (Previously Presented) The base station of claim 73, wherein the encryption key field

comprises at least two bits.

75.   (Currently Amended) The base station of claim 63, claim 73, wherein the header area of

the protocol data unit further comprises a connection identifier field.

76-81. (Canceled)

82. A node as claimed in claim 51, wherein the first SDU is a last fragment of a SDU.

83.   (New) A method of formatting protocol data units (PDUs) from incoming service data

units (SDUs) for transmission of data carried by the PDUs over a communication channel shared

by one or more user connections, comprising, for a specified user connection:

        provisioning a protocol data unit (PDU), including a header and a payload area, wherein

the length of the PDU is established in conjunction with the bandwidth allocated currently to the

user connection; and

        packing and fragmenting the SDUs associated with the user connection into the payload

area of the PDU based on the length of the payload area.

84. (New) The method of claim 83, wherein the length of the PDU changes dynamically as the bandwidth allocated to the user connection changes.

85. (New) The method of claim 83, wherein the step of packing and fragmenting comprises:

mapping one or more SDUs into the payload area of the PDU until a remaining area in the payload area of the PDU cannot accommodate a next SDU;

fragmenting the next SDU into a first and a second fragment, the first fragment having the length of the remaining area;

mapping the first fragment to the remaining area; and

inserting fragmentation header information to indicate the fragmentation state of the payload and to identify the first fragment as being a first fragment.

86. (New) The method of claim 85, wherein any SDU fragment includes a fragmentation control field identifying the SDU fragment.

87. (New) The method of claim 85, wherein the step of packing and fragmenting further comprises:

mapping the second fragment to a next PDU if the length of the second fragment fits into the length of the payload area of the next PDU; and

inserting fragmentation control information to indicate the fragmentation state of the payload and to identify the last fragment as being a last fragment.

- 15 -

88.   (New) The method of claim 85, wherein the step of packing and fragmenting comprises:

further fragmenting the second fragment if the length of the second fragment is larger

than the length of the payload area of a next PDU to obtain a third fragment having the length of

the payload area of the next PDU;

mapping the third fragment to the next PDU; and

inserting fragmentation control information, to indicate the fragmentation state of the

payload and to identify the third fragment.

89.   (New) A method for use in a communications system that packs and fragments service

data units (SDU) into a protocol data unit (PDU) having a variable-length payload area and being

associated with a specific user connection, the method comprising:

receiving a first service data unit and a second service data unit;

fragmenting the second service data unit into at least two fragments;

packing the first service data unit and a corresponding packing subheader into the

payload area of the protocol data unit; and

packing a first fragment of the second service data unit and a corresponding packing

subheader into a remaining portion of the payload area of the protocol data unit,

wherein each packing subheader comprises a length field specifying the length of the

corresponding service data unit and a fragmentation control field indicating whether the

corresponding service data unit is a first fragment, a continuing fragment, a last fragment, or an

unfragmented service data unit.